

FROG FIELDWORK – DATA ANALYSIS AND COMMUNICATING

Southern and Northern Corroboree Frogs are unique Australian amphibians facing a number of pressures in the wild, causing their populations to plummet. Taronga's expert herpetofauna zookeepers are working tirelessly to bring this species back from the brink of extinction.



Ensuring the long-term success of in situ breeding facilities for Southern and Northern Corroboree Frogs requires a strategic approach from all organisations involved in the process. To measure the success and viability of these breeding groups in specialist facilities in Kosciuszko National Park, the collection and analysis of data is essential.

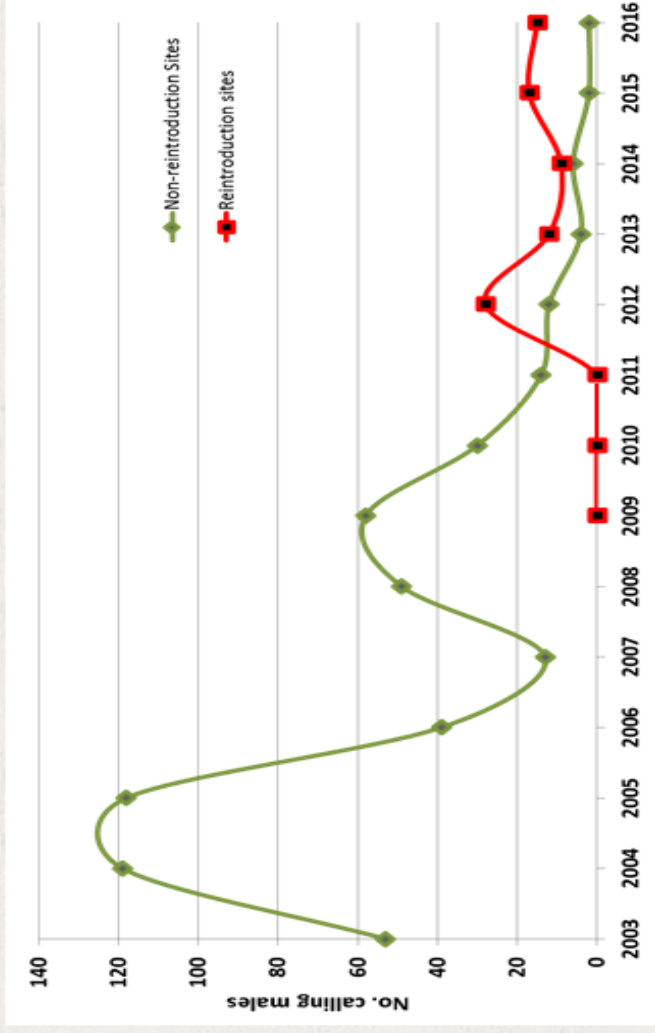
Taronga's Herpetofauna keeping team, lead by Michael MacFadden, use a range of data sources to monitor the populations of these frogs, observe individuals and track trends over time. These include using their unique markings to identify specific individuals, measuring size and weight, egg counts, and using sound to calculate the number of breeding males in each location. One key to breeding success is to allow the frogs to thrive as undisturbed as possible, which can be challenging due to their miniscule size, and unique behaviours.

To work like Michael and the Corroboree Frog Recovery Team, your first task is to **interpret the data** on the following page and respond to the questions, considering what factors may be influencing these frog populations over time. Can you **represent and communicate this data** in a different way?

Your second task is to **design a data collection tool** that could be used within one of these breeding facilities to provide a non-invasive way to monitor one or more of the important markers that must be collected. Your design can be of a system, device, or collection method, just as Taronga's conservation scientists do with in the field with each species recovery project.

FROG FIELDWORK - DATA ANALYSIS

The most reliable monitoring technique is to survey the number of breeding males. The breeding males reliably respond with their threat call when researchers shout near their sphagnum nests and the calls can be easily counted. In 2009, the first Corroboree Frog eggs were reintroduced back into the wild. The frogs that survived from these eggs became sexually mature and started being recorded as breeding males in 2012.



The graph shows the number of Southern Corroboree Frog males recorded in annual surveys from 2003- 2016.

Source - <http://www.corroboreefrog.org.au/>

SOUTHERN CORROBOREE FROGS

Southern Corroboree Frogs are listed as *Critically*

Endangered on the IUCN Red List.

They face a number of selective pressures in the wild, ranging from disease, introduced species, and environmental factors which impact distribution and abundance.

The data collected in the table is done using an unusual method to avoid disturbing the nesting sites. Males begin vocalising when they reach sexual maturity, and this is used by the conversation scientists to assess the number of breeding males in each population site.

POPULATION CHANGE Describe the changes in the populations over time shown in the graph above, and list the threats that could be causing these changes.